

November 20, 2006

CERTIFIED RETURN RECEIPT #XXX XXX XXX XXX

Mr. Ronald Zarbnisky, Chairman
North Lake Recreational Sewer and Water District
P. O. Box 729
Donnelly, Idaho 83615

**Subject: North Lake Recreational Sewer and Water District
Permit Application No. LA-000070-03 (Municipal Wastewater)**

Dear Mr. Zarbnisky:

Enclosed for your review and comment, is the draft Wastewater Reuse permit LA-000070-03 for your wastewater treatment facilities. We have also enclosed the staff analysis used in preparing this draft permit.

Comments on this draft permit are due no later than December 20, 2006. These documents will also be posted on the DEQ website for public comment through this date.

If you have any questions or need further information, please call me at (208) 373-0550 or via email at Tiffany.Floyd@deq.idaho.gov or contact Paul Wakagawa at (208) 373-0244.

Sincerely,

Tiffany Floyd
Acting Regional Engineering Manager

Enclosure: Staff Analysis and Draft Permit

cc: Toni Hardesty, Director
J. R. Sandoval, Administrator, Boise Regional Office
Richard Huddleston, State Water Quality Office
Paul Wakagawa, Boise Regional Office
Bill Eddy, North Lake Recreational Sewer and Water District
Susan Burnham, Keller Associates (w/ enclosure)
Mayor George Dorris, City of Donnelly
SO File LA-000070-03 (w/ enclosure)
File 17.1, LA-000070-03 (w/ enclosure)

A. Permit Certificate

**MUNICIPAL
WASTEWATER REUSE PERMIT
LA-000070-03**

Draft 11/15/06

North Lake Recreational Sewer & Water District (District), P. O. Box 729, Donnelly, Idaho 83615 WITH FACILITIES IN Township 16 North, Range 3 East, Section 9 (Rapid Infiltration Site) and Section 15 (Wastewater Treatment Facilities and Slow Rate Application Sites) IS
HEREBY AUTHORIZED TO CONSTRUCT, INSTALL, AND
OPERATE A WASTEWATER REUSE SYSTEM IN ACCORDANCE
WITH THE *RECLAMATION AND REUSE OF MUNICIPAL AND INDUSTRIAL WASTEWATER REGULATIONS* (IDAPA 58.01.17), THE
WASTEWATER RULES (IDAPA 58.01.16), THE *GROUND WATER QUALITY RULE* (IDAPA 58.01.11), AND ACCOMPANYING PERMIT
APPENDICES AND REFERENCE DOCUMENTS. THIS PERMIT IS
EFFECTIVE FROM THE DATE OF SIGNATURE AND EXPIRES ON
_____.

J. R. Sandoval, Administrator
Boise Regional Office
Idaho Department of Environmental Quality

Date: _____

**DEPARTMENT OF ENVIRONMENTAL QUALITY
1445 North Orchard
Boise, Idaho 83706-2239
(208) 373-0550**

POSTING ON SITE RECOMMENDED

B. Permit Contents, Appendices, and Reference Documents

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References

1. Plan of Operation (Operation and Maintenance Manual) for Slow Rate System
2. Plan of Operation (Operation and Maintenance Manual) for Rapid Infiltration System
3. Waste Solids Management Plan
4. Grazing Management Plan (contained in Permit Application, Appendix E)

The Sections and Appendices listed on this page are all elements of Wastewater Reuse Permit LA-000070-03 and are enforceable as such. This permit does not relieve the District, hereafter referred to as the permittee, from responsibility for compliance with other applicable federal, state or local laws, rules, standards or ordinances.

C. Abbreviations, Definitions

Ac-in	Acre-inch. The volume of water or wastewater to cover 1 acre of land to a depth of 1 inch. Equal to 27,154 gallons.
BMP or BMPs	Best Management Practices
COD	Chemical Oxygen Demand
DEQ or the Department	Idaho Department of Environmental Quality
Director	Director of the Idaho Department of Environmental Quality, or the Directors Designee, i.e. Regional Administrator
ET	Evapotranspiration – Loss of water from the soil and vegetation by evaporation and by plant uptake (transpiration)
Fiber Crops	Crops grown for fodder or seed.
Food Crops	Crops grown for human consumption, including, but not limited to fruits and vegetables.
GS	Growing Season – Typically April 1 through October 31 (214 days). May vary depending on site-specific climate and the crop(s) grown.
GW	Ground Water
GWQR	IDAPA 58.01.11 “Ground Water Quality Rule”
Handbook or Guidelines	“Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater”, on DEQ website: http://www.deq.idaho.gov/water/permits_forms/permitting/guidance.cfm
HLRgs	Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to land application hydraulic management units during the growing season. The HLRgs limit is specified in Section F. Permit Limits and Conditions.
HLRngs	Non-Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to each hydraulic management unit during the non-growing season. The HLRngs limit is specified in Section F. Permit Limits and Conditions.
HMU	Hydraulic Management Unit (Serial Number designation is MU)
IWR	<p>Irrigation Water Requirement – Any combination of wastewater and supplemental irrigation water applied at rates commensurate to the moisture requirements of the crop, and calculated monthly during the growing season (GS). Calculation methodology for the IWR can be found at the following website: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml. The equation used to calculate the IWR at this website is:</p> $IWR = (CU - P_e) / E_i$ <p>CU is the monthly consumptive use for a given crop in a given climatic area. CU is synonymous with crop evapotranspiration</p> <p>P_e is the effective precipitation. CU minus P_e is synonymous with the net irrigation requirement (IR)</p> <p>E_i is the irrigation system efficiency. To obtain the gross irrigation water requirement (IWR), divide the IR by the irrigation system efficiency.</p>
IDAPA	Idaho Administrative Procedures Act.
LG	Lagoon
lb/ac-day	Pounds (of constituent) per acre per day
MG	Million Gallons (1 MG = 36.827 acre-inches)
MGA	Million Gallons Annually (per WLAP Reporting Year)
NGS	Non-Growing Season – Typically November 1 through March 31 (151 days). May vary depending on site-specific climate and the crop(s) grown.
NVDS	Non-Volatile Dissolved Solids (= Total Dissolved Solids less Volatile Dissolved Solids)
O&M manual	Operation and Maintenance Manual, also referred to as the Plan of Operation
SAR	Sodium Absorption Ratio
SI	Supplemental Irrigation water applied to the land application treatment site.
Soil AWC	Soil Available Water Holding Capacity - the water storage capability of a soil to a depth at which plant roots will utilize (typically 60 inches or root limiting layer)

C. Abbreviations, Definitions

SMU	Soil Monitoring Unit (Serial Number designation is SU)
SW	Surface Water
TDS	Total Dissolved Solids or Total Filterable Residue
TDIS	Total Dissolved Inorganic Solids – The summation of chemical concentration results in mg/L for the following common ions: calcium, magnesium, potassium, sodium, chloride, sulfate, and 0.6 times alkalinity (alkalinity expressed as calcium carbonate). Nitrate, Silica and fluoride shall be included if present in significant quantities (i.e. > 5 mg/L each).
TMDL	Total Maximum Daily Load – The sum of the individual waste-load allocations (WLA's) for point sources, Load Allocations (LA's) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. IDAPA 58.01.02 <i>Water Quality Standards and Wastewater Treatment Requirements</i>
Typical Crop Uptake	Typical Crop Uptake is defined as the median constituent crop uptake from the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each hydraulic management unit. For new crops having less than three years of on-site crop uptake data, regional crop yield data and typical nutrient content values, or other values approved by DEQ may be used.
USGS	United States Geological Survey
WRP	Wastewater Reuse Permit (or Program)
WRP Reporting Year	The reporting year begins with the non-growing season and extends through the growing season of the following year, typically November 1 through October 31. For example, the 2000 Reporting Year was November 1, 1999 through October 31, 2000.
WW	Wastewater applied to the land application treatment site

D. Facility Information

Legal Name of Permittee	North Lake Recreational Sewer & Water District (District)
Type of Wastewater	Municipal Wastewater
Method of Treatment	Two treatment systems will be covered in this permit: 1. Lagoon treatment, chlorine disinfection, and slow-rate land application on private property owned by Eld and Stevens (existing system). Class C effluent quality. 2. Membrane bioreactor (MBR) system, enhanced phosphorus removal, ultraviolet disinfection, and discharge to rapid infiltration basin system (scheduled for 2007 startup). Class B effluent quality.
Type of Facility	Publicly owned municipal wastewater treatment system serving the City of Donnelly and the District
Facility Location	Lagoon treatment and slow-rate land application site located on west side of Eld Lane, southwest of the City of Donnelly. Rapid infiltration basin site located on the east side of Norwood Road between Nisula and West Roseberry Roads on the west side of the Lake Fork arm of Cascade Lake.
Legal Location	Wastewater Treatment Facilities and Slow Rate Application Site: Township 16N, Range 3E, Section 15 Rapid Infiltration Site Township 16N, Range 3E, Section 9) and Section 15 (Township 4N, Range 2E, Sections 4, 5, and 6 Township 5N, Range 2E, Sections 28, 29, 31, 32, and 33
County	Valley
USGS Quad	Donnelly
Soils on Site	Slow Rate Site: Donnel sandy loam, Melton loam, Roseberry coarse sandy loam Rapid Infiltration Site: Donnel sand loam, Kangas fine gravelly loamy coarse sand
Depth to Ground Water	Slow Rate Site: Depth to seasonal high ground water is 1 to 4 feet Depth to regional aquifer is approximately 100 feet Rapid Infiltration Site: Depth to seasonal high ground water is 3 to 25 feet Depth of unconfined aquifer system 244 feet or less Confined aquifer deeper than 244 feet
Beneficial Uses of Ground Water	Agriculture, Domestic
Nearest Surface Water	Slow Rate Site: Lake Fork arm of Cascade Lake, Boulder Creek, unnamed drainage runs through site Rapid Infiltration Site: Mud Creek, Lake Fork arm of Cascade Lake

D. Facility Information

Beneficial Uses of Surface Water	Agricultural Water Supply, Wildlife Habitat, Industrial Water Supply, Primary Contact Recreation, Cold Water Aquatic Life, Salmonid Spawning
Responsible Official Mailing Address Phone	Ronald Zarbnisky, District Chairman (Responsible Official) Bill Eddy, District Manager (Facility Contact) 435 South Eld Lane, P. O. Box 729, Donnelly, Idaho 83615 (208) 325-8958
Facility Consultants Mailing Address Phone / Fax	Keller Associates 131SW 5 th Avenue, Suite A, Meridian, Idaho 83642 (208) 288-1992 / (208) 288-1999

E. Compliance Schedule for Required Activities

The Activities in the following table shall be completed on or before the Completion Date unless modified by the Department in writing.

Compliance Activity Number Completion Date	Compliance Activity Description
CA-070-01 District Agreements for Stevens and Eld Property Six (6) months after permit issuance	Submit revised Agreements (in draft form) for DEQ review and approval with the property owners for the slow rate application system (Stevens and Eld) to make consistent with Reuse Permit LA-000070-03 requirements.
CA-070-02 Plan of Operation As specified	<p>Submit an updated Plan of Operation (Operation and Maintenance Manual or O&M Manual) for each reuse system for DEQ review and comment.</p> <ol style="list-style-type: none"> 1. Lagoon treatment and the slow rate land application system. Due six (6) months after permit issuance. 2. Membrane bioreactor (MBR) system, enhanced phosphorus removal, ultraviolet disinfection, and to rapid infiltration basin system (scheduled for 2007 startup). Due six months after startup date of MBR treatment plant. <p>The O&M manuals shall generally be designed for use as an operator guide for actual day-to-day operations to meet permit requirements, and shall address relevant operations and maintenance for the wastewater treatment system and land application-treatment facilities. The manual shall be updated to reflect the new permit requirements and O&M changes which are not covered in the existing plan.</p> <p>Upon approval, the manuals shall be incorporated by reference into this permit and shall be enforceable as a part of this permit.</p>
CA-070-03 Control of Property Around Rapid Infiltration Basin Site As specified	<p>Prior to discharge of effluent to the Rapid Infiltration (RI) site, the District shall:</p> <ol style="list-style-type: none"> 1. Delineate the area of ground water impacts from operation of the RI site. 2. Provide documentation that the District has control of property in the delineated area. 3. Provide documentation stating the District will not allow any well for potable water supply to be constructed in the delineated area.
CA-070-04 Ground Water Monitoring Wells As specified	<p>Complete installation of ground water monitoring wells as specified in DEQ letter to Mr. Bill Eddy, dated September 1, 2006 (refer to Appendix 3) for the slow rate sites (Eld and Stevens) and the rapid infiltration site.</p> <p>Construction of slow rate site monitoring wells shall be completed by April 15, 2007 and the rapid infiltration site monitoring wells shall be completed within three (3) months of permit issuance.</p>

E. Compliance Schedule for Required Activities

Compliance Activity Number Completion Date	Compliance Activity Description
CA-070-05 Waste Solids Management Plan Six (6) months after permit issuance	<p>Submit a Waste Solids Management Plan for the treatment and disposal of biosolids from the wastewater treatment facilities for DEQ review and approval. The Plan shall describe how waste solids generated by the wastewater treatment system (lagoon sludge and MBR generated sludge) will be treated and disposed of to meet the requirements of section I, No. 5 of this permit and EPA regulation 40 CFR 503.</p>
CA-070-06 Flow Rate Monitoring Six (6) months after permit issuance	<p>Complete installation of effluent flow measuring devices for the slow rate system to determine the volume of effluent to each hydraulic management unit.</p> <p>Reporting the volume of supplemental irrigation water applied is required, but may be based on pump curves and run time if the calculation procedures are submitted to and approved by DEQ.</p>
CA-070-07 Runoff Management Plan As Specified	<ol style="list-style-type: none"> 1. No runoff is allowed from any site or fields used for wastewater slow rate irrigation, except after a 25-year, 24-hour storm event or greater. The permittee shall evaluate the Eld and Stevens properties for compliance with this requirement. Complete within six (6) months of permit issuance. 2. If the permitted slow rate fields are not in compliance with the runoff prevention criteria, the permittee shall submit plans for the construction of control structures and other BMPs to contain the design storm event for DEQ review and approval. Complete within six (6) months of determination in item no. 1. 3. Complete installation of runoff prevention facilities approved by DEQ in item no. 2. Complete within six (6) months of DEQ approval date.

F. Permit Limits and Conditions

- 1) The Permittee is allowed to reuse reclaimed wastewater at locations prescribed in the tables below and in accordance with all other applicable permit conditions and schedules.

Category	Permitted Limits and Conditions	
	Slow Rate System	Rapid Infiltration System
Type of Wastewater	Municipal Wastewater, Class C effluent quality as defined in IDAPA 58.01.17	Municipal Wastewater, Class B effluent quality as defined in IDAPA 58.01.17
Application Site Area	Eld Field 1, 70 acres Stevens Field 2, 80 acres	Rapid Infiltration site no. 1 on Keller Associates Plan Set stamped May 18, 2006, Sheet C-35
Application Season	May 1 through October 15 (168 days)	Year-round
Reporting Year for Annual Report	January 1 through December 31	January 1 through December 31
Maximum Application Volume of Water	<p>The Growing Season (GS) Hydraulic Loading Rate shall generally follow the Irrigation Water Requirement (IWR) using data from the tables contained in the following University of Idaho web site: http://www.kimberly.uidaho.edu/water/ppndxet/index.shtml.</p> <p>IWR is equal to the Mean IR data from these tables divided by the irrigation system efficiency.</p> <p>In lieu of these tables, current climatic and evaporation data, or 30-year average data may be used to calculate the IWR, as defined in the Guidelines.</p> <p>This limit applies to reclaimed wastewater and supplemental irrigation water, if used.</p> <p>No Non-growing season (NGS) application of water allowed.</p>	<p>Up to 1 million gallons per day</p> <p>This limit applies to reclaimed wastewater only. No supplemental irrigation water is applied to the RI site.</p>
MBR effluent prior to disinfection, turbidity	Not applicable	<p>Less than 0.2 NTU, 24-hour average</p> <p>Less than 0.5 NTU, instantaneous maximum</p>
Effluent, Total Nitrogen, mg/L	See Maximum Nitrogen Loading Rate limit below	10 mg/L or less, monthly average
Effluent, Total Phosphorus, mg/L	See Maximum Phosphorus Loading Rate limit below	0.1 mg/L or less, monthly average
Effluent TSS, mg/L	Not applicable	10 mg/L or less, monthly average
Effluent BOD, mg/L	Not applicable	10 mg/L or less, monthly average

F. Permit Limits and Conditions

Category	Permitted Limits and Conditions	
	Slow Rate System	Rapid Infiltration System
Total Coliform Bacteria No. of organisms per 100 milliliters	<p>The median number of total coliform organisms shall not exceed 23 per 100 milliliters, as determined from the results of the last seven (5) days for which analyses have been completed. In addition, the number of total coliform organisms shall not exceed 230 per 100 milliliters in any confirmed sample.</p> <p>The point of compliance is any point in the system following final treatment and disinfection contact time.</p>	<p>The median number of total coliform organisms shall not exceed 2.2 per 100 milliliters, as determined from the results of the last seven (7) days for which analyses have been completed. In addition, the number of total coliform organisms shall not exceed 23 per 100 milliliters in any confirmed sample.</p> <p>The point of compliance is any point in the system following final treatment and disinfection contact time.</p>
Chlorine Residual	No requirement	<p>No requirement. System uses Ultraviolet (UV) disinfection process to meet total coliform bacteria limit.</p> <p>A chlorine residual is recommended in the distribution pipelines to the RI basins for pipeline maintenance and odor control.</p>
Maximum COD Loading, Growing Season Average in pounds/acre-day	50 pounds/acre-day	Not applicable
Maximum Nitrogen Loading Rate, pounds/acre-year, each HMU	<p>150% of typical crop uptake from all sources including manure from grazing and supplemental fertilizers,</p> <p>or</p> <p>UI Fertility Guide – combined total for Growing and Non-Growing Season.</p>	See Effluent, Total Nitrogen concentration limit
Maximum Phosphorus Loading Rate	DEQ reserves the right to re-open this permit for inclusion of phosphorus limits.	See Effluent, Total Phosphorus concentration limit
Buffer Zones	<p>The following minimum distances shall be provided between the buffer objects listed below and reclaimed wastewater reuse areas:</p> <p>Homes: 300 feet</p> <p>Areas of Public Access: 50 feet</p> <p>Domestic Water Wells: 500 feet</p> <p>Municipal Water Wells: 1,000 feet</p> <p>Natural Surface water: 100 feet</p> <p>Irrigation ditches/canals: 50 feet</p> <p>Alternative buffer distances may be proposed with technical justification provided by the District and acceptance by DEQ</p>	<p>The following minimum distances shall be provided between the buffer objects listed below and the perimeter of the RI basin site:</p> <p>Domestic Water Wells: 500 feet</p> <p>Municipal Water Wells: 1,000 feet</p> <p>Alternative buffer distances may be proposed with technical justification provided by the District and acceptance by DEQ</p>

F. Permit Limits and Conditions

Category	Permitted Limits and Conditions	
	Slow Rate System	Rapid Infiltration System
Posting/Restricting Access	<ol style="list-style-type: none"> 1. Fencing is required around the perimeter of the land application site. 2. Warning signs stating “Irrigated with Reclaimed Wastewater, Do Not Drink” or equivalent every 500 feet around the perimeter of the site. 	<ol style="list-style-type: none"> 1. Fencing is required around the perimeter of the RI Basin site. 2. Warning signs stating “Reclaimed Wastewater Facility, Do Not Drink” or equivalent every 500 feet around the perimeter of the site.
Grazing	Grazing shall be managed in accordance with the DEQ-approved grazing management plan.	None allowed
The Requirements below apply to both slow rate and rapid infiltration systems		
Certified Operator	The System shall be operated by personnel certified and licensed in accordance with the Wastewater Rules, IDAPA 58.01.16.203, and properly trained to operate and maintain the System. A copy of the licensure record form for the personnel that will be operating the plant shall be submitted to DEQ to demonstrate compliance with this requirement.	
Waste Solids Management Plan	Waste solids shall be managed in accordance with the DEQ-approved Waste Solids Management Plan. See Compliance Activity CA-070-05.	
Odor Management	The wastewater treatment plant, reuse facilities, and other operations associated with the facility shall not create a public health hazard or nuisance conditions, including odors.	
Construction Plans	Prior to construction or modification of facilities associated with the wastewater treatment or reuse system, plans and specifications shall be submitted to DEQ for review and approval. Within 30 days of completion of construction, the permittee shall submit as-built plans for review and approval.	
Supplemental Irrigation Water Protection	For systems with reclaimed wastewater and fresh irrigation water interconnections, DEQ-approved backflow prevention devices are required for protection of fresh irrigation water sources.	

G. Monitoring Requirements

1. The permittee shall monitor and measure parameters as stated in the Facility Monitoring Schedule in this section. Unless otherwise agreed to in writing by the DEQ, data collected and submitted shall include, but not be limited to, the parameters and frequencies in the Facility Monitoring Schedule.
2. Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
3. Appropriate analytical methods, as approved by DEQ, shall be employed. An up-to-date description of sample collection methods, appropriate analytical methods, and QA/QC protocols shall be included in the Plan of Operation manual.
4. A Hydraulic Management Unit (HMU) is a pre-defined area or field(s) that, in as much as possible, have similar cropping practices, irrigation practices, and other management characteristics. The HMU's are defined in Appendix 1, "Environmental Monitoring Serial Numbers".
5. Ten (10) soil sample locations shall be selected for each Soil Monitoring Unit (SMU). Three (3) soil samples shall be collected at each sample location, one at 0-12 inches, one at 12-24 inches, and one at 24-36 inches. The soil samples collected at each depth shall be composited to yield three (3) samples for analysis from each soil monitoring unit.
6. The static water level in each ground water monitoring well shall be measured prior to purging and/or sampling ground water. Ground water monitoring wells shall be purged a minimum of three (3) casing volumes prior to obtaining a sample of ground water. Alternately, wells shall be continually purged until field measurements satisfy each of the following conditions: two consecutive temperature values measured at least five minutes apart are within one degree Celsius of each other, two consecutive pH measurements taken at least five minutes apart are within 0.2 units of each other, and two consecutive specific conductance values measured at least five minutes apart are within 10% of each other. Alternate procedures, such as low flow sampling, shall be submitted to DEQ for review and approval prior to implementation.
7. Annual reporting of monitoring requirements is described in Section H, Reporting Requirements.
8. Monitoring locations are defined in Appendix 1, "Environmental Monitoring Serial Numbers".

Facility Monitoring Table, Slow Rate System

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Influent Sewage			
Daily	Flow Meter	Sewer influent flow rate to lagoon system	Gallons per day
Monthly	Influent Sewage	24-hour Composite Sample	Total Suspended Solids, 5-Day Biological Oxygen Demand
Reclaimed Wastewater			
Daily (when irrigating with reclaimed wastewater)	Flow Meter	Volume of Reclaimed Wastewater to slow rate irrigation	Gallon per day, gallons per month, and acre-inches/month applied, each Hydraulic Management Unit (HMU). See Note 3.
Weekly (each week when reclaimed wastewater is applied)	Following Disinfection Process	Grab Sample of Reclaimed Wastewater	Total Coliform

G. Monitoring Requirements

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Monthly (each month when reclaimed wastewater is applied)	Following Disinfection Process	Grab Sample of Reclaimed Wastewater	Total Kjeldahl Nitrogen, Nitrate-Nitrogen, Total Phosphorus, Chemical Oxygen Demand, Total Dissolved Solids, Volatile Dissolved Solids
Supplemental Irrigation Water			
Daily (when using supplemental irrigation water)	Flow Meter or DEQ-approved equivalent	Volume of Supplemental Irrigation Water	Gallon per day, gallons per month, and acre-inches/month applied, each HMU
Ground Water			
Twice per year, April and October	Ground water monitoring wells GW-07001, 07002, 07003, and 07004	See Note 6.	Depth to Ground Water, Ground Water Elevation, Nitrate Nitrogen, Total Coliform, Total Phosphorus, Total Dissolved Solids, Chloride
Soil			
Annually (following completion of reclaimed wastewater application season)	Soil Monitoring Unit	Composite Soil Sample See Note 5.	Electrical Conductivity, Nitrate-N, Ammonium-N, pH, Plant Available Phosphorous Note: Use the Olsen method for soils with pH 6.5 or greater, use the Bray method if soil pH is less than 6.5
Miscellaneous Data and Calculations			
Annually	Each HMU	Acres used for the reuse of reclaimed wastewater	1. If all acres of a HMU are used, no site plan submittal is required. 2. If a portion of the HMU acreage is utilized, submit a site plan showing the areas used within the HMU and quantify the acres.
Annually	Each HMU	Calculate Irrigation Water Requirement	Volume (inches/acre and total gallons) for each month during application season.
Annually	Each HMU	Calculate total nitrogen loading from reclaimed wastewater	Pounds /acre-year
Annually	Each HMU	Calculate phosphorus loading from reclaimed wastewater	Pounds /acre-year
Annually	Each HMU	Calculate COD loading from reclaimed wastewater, growing season average	Pounds /acre-year
Annually	Each HMU	Calculate crop nitrogen and phosphorus removal	Total pounds/HMU and pounds/acre and provide basis for calculations

G. Monitoring Requirements

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Annually	At Reclaimed Wastewater/ Supplemental Irrigation Water interconnections with the potential for contaminating the supplemental water supply	Backflow Prevention Device testing	Provide documentation of the testing of all backflow prevention devices.
Every two years, starting with first year of permit	Flow measurement devices	Calibration of flow meters used to measure flow rates to reuse areas.	Provide documentation for the calibration of all flow meters and pumps used directly or indirectly to measure all reclaimed wastewater and supplemental irrigation water flows applied to reuse areas.

Facility Monitoring Table, Rapid Infiltration System

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Influent Sewage			
Daily	Flow Meter	Sewer influent flow rate to Membrane Bioreactor treatment system	Gallons per day
Monthly	Influent Sewage	24-hour Composite Sample	Total Suspended Solids, 5-Day Biological Oxygen Demand
Reclaimed Wastewater System			
Daily	Flow Meter	Volume of Reclaimed Wastewater to rapid infiltration system	Gallons per day, rapid infiltration basin(s) used for discharge, total gallons per year
Daily	Flow Meter	Volume of Reclaimed Wastewater diverted	Gallons per day, diversion point, total gallons per year
Continuous (when MBR system is in operation)	MBR effluent <u>prior</u> to disinfection	Turbidity	Nephelometric Turbidity Units
Twice per Week (when producing reclaimed wastewater for delivery to RI Basins)	Sample point following UV disinfection process	Grab Sample of Reclaimed Wastewater	Total Coliform
Monthly	Sample point following UV disinfection process	Grab Sample of Reclaimed Wastewater	Total Kjeldahl Nitrogen, Nitrate - Nitrogen, Total Phosphorus, Total Dissolved Solids, Volatile Dissolved Solids

G. Monitoring Requirements

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Ground Water			
Monthly, for the twelve months after RI basins are put into operation	Ground water monitoring wells GW-07005, 07006, and 07007	See Note 6.	Depth to Ground Water, Ground Water Elevation, Nitrate Nitrogen, Total Coliform, Total Phosphorus, Total Dissolved Solids, Chloride
Quarterly, after initial monthly monitoring is completed	Ground water monitoring wells GW-07005, 07006, and 07007	See Note 6.	Depth to Ground Water, Ground Water Elevation, Nitrate Nitrogen, Total Coliform, Total Phosphorus, Total Dissolved Solids, Chloride
Miscellaneous Data and Calculations			
Annually	Each rapid infiltration basin (14 basins)	Calculation of volume of reclaimed wastewater to each basin	Gallons per year
Annually	Within the District boundary	Report the number of septic tank systems removed from service and connected into the District sewer collection system in the reporting year	Addresses of septic tank systems removed from service and the month/year the system was removed from service
Every two years, starting with first year of permit	At flow measurement locations	Calibration of flow meter	Provide documentation for the calibration of the flow meter used to measure reclaimed wastewater production from the MBR system

H. Standard Reporting Requirements

1. The permittee shall submit an Annual Wastewater Reuse Performance Report ("Annual Report") prepared by a competent environmental professional no later than March 31 of each year which shall cover the previous year (see section F for reporting period). The Annual Report shall include results for monitoring required in Section G, status of compliance activities, and an interpretive discussion of monitoring data (ground water, vadose zone, hydraulic loading, wastewater etc.) with particular respect to environmental impacts by the facility.
2. The annual report shall contain the results of the required monitoring as described in Section G. Monitoring Requirements. If the permittee monitors any parameter more frequently than required by this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual report.
3. The annual report shall be submitted to the Engineering Manager at the following address:

Boise Regional Office
1445 North Orchard
Boise, ID 83706-2239
208-373-0550

A copy of the annual report shall also be mailed to:

Richard Huddleston, P.E.
Wastewater Program Manager
1410 N. Hilton
Boise, ID 83706
208-373-0561

4. Notice of completion of any work described in Section E. Compliance Schedule for Required Activities shall be submitted to the Department within 30 days of activity completion. The status of all other work described in Section E shall be submitted with the Annual Report.
5. All laboratory reports containing the sample results for monitoring required by Section G. Monitoring Requirements of this permit shall be submitted with the Annual Report.

I. Standard Permit Conditions: Procedures and Reporting

1. The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, operational controls and monitoring, which are installed or used by the permittee to comply with all conditions of the permit or the *Reclamation and Reuse of Municipal and Industrial Wastewater Regulations*, IDAPA 58.01.17, in conformance with a DEQ approved, current Plan of Operations (Operations and Maintenance Manual) which describes in detail the operation, maintenance, and management of the wastewater treatment system. This Plan of Operations shall be updated as necessary to reflect current operations.
2. Wastewater(s) or recharge waters applied to the land surface must be restricted to the premises of the application site as stated in the *Wastewater Rules*, IDAPA 58.01.16.600.02. Wastewater discharges to surface water that require a permit under the Clean Water Act must be authorized by the U.S. Environmental Protection Agency.
3. Wastewater must not create a public health hazard or nuisance condition as stated in the *Wastewater Rules*, IDAPA 58.01.16.600.03. In order to prevent public health hazards and nuisance conditions the permittee shall:
 - a. Apply wastewater as evenly as practicable to the treatment area;
 - b. Prevent organic solids (contained in the wastewater) from accumulating on the ground surface to the point where the solids putrefy or support vectors or insects; and
 - c. Prevent wastewater from ponding in the fields to the point where the ponded wastewater putrefies or supports vectors or insects.
4. The permittee shall:
 - a. Manage the wastewater land application treatment site as an agronomic operation where vegetative cover is grown and harvested or grazed to utilize the nutrients and minerals in the wastewater, and,
 - b. Not hydraulically overload any particular areas of the wastewater land application treatment site.
5. All waste solids, including dredgings and sludges, shall be utilized or disposed in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state such that health hazards and nuisance conditions are not created; and to prevent impacts on designated beneficial uses of the ground water and surface water. The permittee's management of waste solids shall be governed by the terms of the DEQ approved Waste Solids Management Plan, which upon approval shall be an enforceable portion of this permit.
6. If the permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the permittee shall apply for a new permit at least six months prior to the expiration date of the existing permit in accordance with the *Reclamation and Reuse of Municipal and Industrial Wastewater Regulations*, IDAPA 58.01.17 and include seepage tests on all lagoons per latest DEQ procedures.
7. The permittee shall allow the Director of the Idaho Department of Environmental Quality or the Director's designee (hereinafter referred to as Director), consistent with Title 39, Chapter 1, Idaho Code, to:
 - a. Enter the permitted facility,
 - b. Inspect any records that must be kept under the conditions of the permit.
 - c. Inspect any facility, equipment, practice, or operation permitted or required by the permit.
 - d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility.
8. The permittee shall report to the Director under the circumstances and in the manner specified in this section:
 - a. In writing thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process.
 - b. In writing thirty (30) days before any anticipated change which would result in non-compliance with any permit condition or these regulations.
 - c. Orally within twenty-four (24) hours from the time the permittee became aware of any non-compliance which may endanger the public health or the environment at telephone numbers provided in the permit by the Director (see below)

DEQ Regional Office: see Permit Certification Page
Emergency 24 Hour Number 1-800-632-8000

I. Standard Permit Conditions: Procedures and Reporting

- d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any non-compliance unless extended by the DEQ. This report shall contain:
 - i. A description of the non-compliance and its cause;
 - ii. The period of non-compliance including to the extent possible, times and dates and, if the non-compliance has not been corrected, the anticipated time it is expected to continue; and
 - iii. Steps taken or planned to reduce or eliminate reoccurrence of the non-compliance.
 - e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report.
9. The permittee shall take all necessary actions to prevent or eliminate any adverse impact on the public health or the environment resulting from permit noncompliance.
10. The permittee shall determine (on an on-going basis) if any noxious weed problems relate to the permitted sites. If problems are present, coordinate with the Idaho Department of Agriculture or the local County authority regarding their requirements for noxious weed control. Also address these control operations in an update to the Operations and Maintenance Manual.

J. Standard Permit Conditions: Modifications, Violations, and Revocations

1. The permittee shall furnish to the Director within reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these regulations.
2. Both minor and major modifications may be made to this permit as stated in IDAPA 58.01.17.700.01 and 02 with respect to any conditions stated in this permit upon review and approval of the DEQ.
3. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, or if it is determined by the DEQ that the terms or conditions of the permit must be modified in order to adequately protect the public health or environment, a request for either major or minor modifications must be submitted together with the reports as described in I. *Standard Reporting Requirements*, and plans and specifications for the proposed changes. No such facility expansion, production increase or process modification shall be made until plans have been reviewed and approved by the DEQ and a new permit or permit modification has been issued.
4. Permits shall be transferable to a new owner or operator provided that the permittee notifies the Director by requesting a minor modification of the permit before the date of transfer.
5. Any person violating any provision of the *Reclamation and Reuse of Municipal and Industrial Wastewater Regulations*, IDAPA 58.01.17, or any permit or order issued thereunder shall be liable for a civil penalty not to exceed ten thousand dollars (\$10,000) or one thousand dollars (\$1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.
6. The Director may revoke a permit if the permittee violates any permit condition or the *Reclamation and Reuse of Municipal and Industrial Wastewater Regulations*, IDAPA 58.01.17.
7. Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the permittee, unless within that time the permittee request an administrative hearing in writing to the Board of the Department of Environmental Quality pursuant to the Rules of Administrative Procedures contained in IDAPA 58.01.23.
8. If, pursuant to Idaho Code § 67-5247, the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, a revocation hearing before the Board of the Department of Environmental Quality shall be provided. Such hearings shall be conducted in accordance with the Rules of Administrative Procedures contained in IDAPA 58.01.23.
9. The provisions of this permit are severable and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.
10. The permittee shall notify the DEQ at least six (6) months prior to permanently removing any permitted land application facility from service, including any treatment, storage, or other facilities or equipment associated with the land application site. Prior to commencing closure activities, the permittee shall: a) participate in a pre-site closure meeting with the DEQ; b) develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and c) submit the completed site closure plan to the DEQ for review and approval within forty-five (45) days of the pre-site closure meeting. The permittee must complete the DEQ approved site closure plan.

Appendix 1

Environmental Monitoring Serial Numbers

HYDRAULIC MANAGEMENT UNITS

Serial Number	Description	Area (Acres)
MU-07001	Eld Field 1 (slow rate system)	104
MU-07002	Stevens Field 2 (slow rate system)	65
MU-07003	Rapid Infiltration Basins (14 cells)	NA

SOIL MONITORING UNITS

Serial Number	Description	Area (Acres)
SU-07001	Eld Field 1	104
SU-07002	Stevens Field 2	65

WASTEWATER SAMPLING POINTS

Serial Number	Description
WW-07001	Influent sewage to wastewater treatment systems
WW-07002	Disinfected effluent from lagoon treatment system
WW-07003	MBR effluent prior to disinfection
WW-07004	MBR effluent after disinfection

GROUND WATER MONITORING WELLS

Serial Number	Description	Location
GW-07001	MW-1, north boundary of Stevens Field 2	Upgradient well for Stevens property
GW-07002	MW-2, SW corner of Stevens Field 2	Downgradient well for Stevens property
GW-07003	MW-3, NE corner of Eld Field 1	Upgradient well for Eld property
GW-07004	MW-4, SW corner of Eld Field 1	Downgradient well for Eld property
GW-07005	MW-5, West of RI Basin site	Upgradient well for RI basin site
GW-07006	MW-6, East of RI Basin site	Downgradient well for RI basin site
GW-07007	MW-7, SE of RI Basin site	Downgradient well for RI basin site

Appendix 1
Environmental Monitoring Serial Numbers

LAGOONS

Serial Number	Description	Volume (MG)
LG-07001	Aerated Lagoon 1, Complete Mix	2.80
LG-07002	Aerated Lagoon 2, Complete Mix (aeration added in 2006)	1.40
LG-07003	Polishing Lagoon 3	1.54
LG-07004	Effluent Storage Lagoon 4	8.20
LG-07005	Effluent Storage Lagoon 5	52.6

Appendix 2

Site Maps

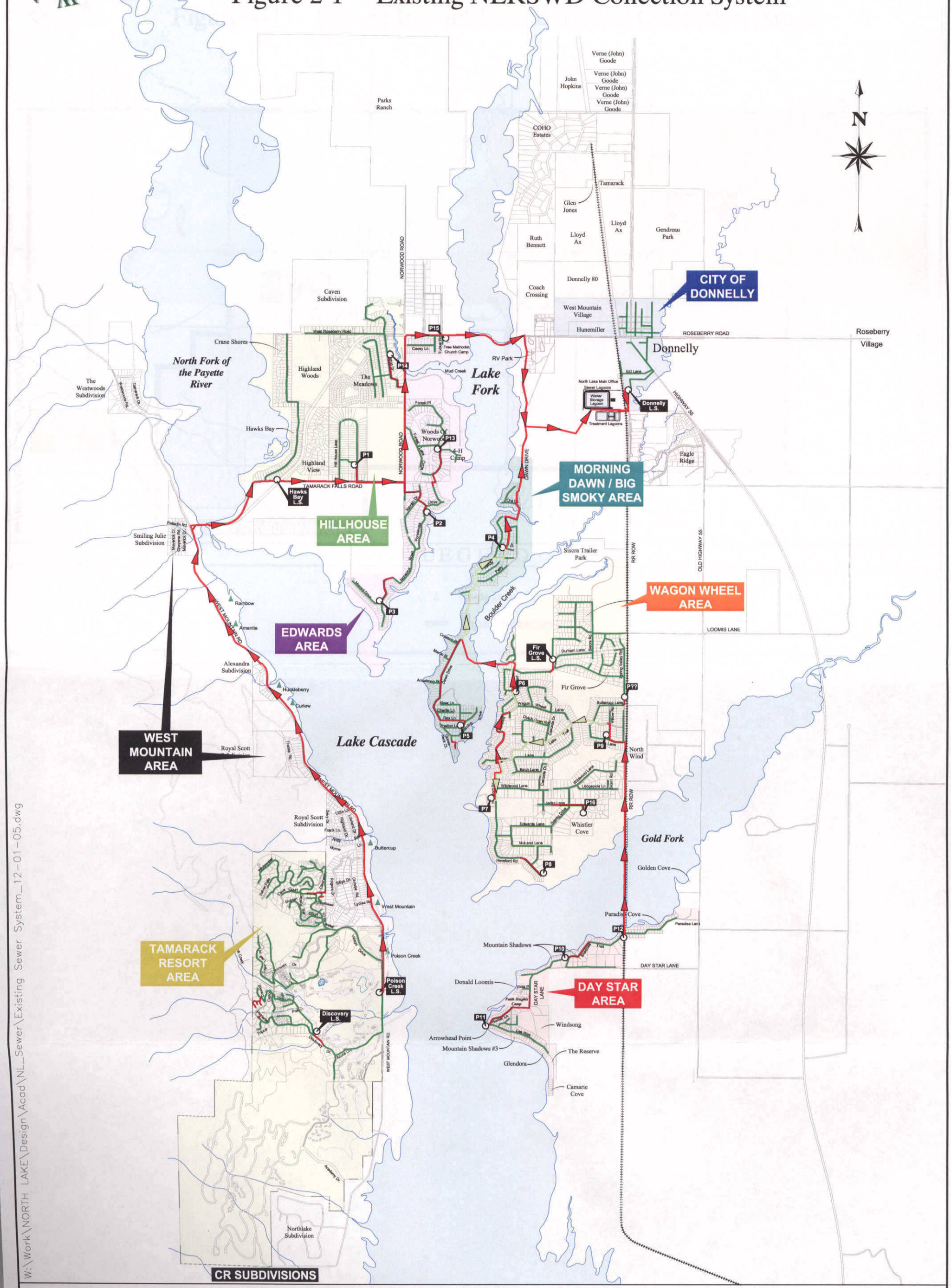
Site maps are in Attachment 1

- Figure 2-1, *Existing NLRSWD Collection System* (Collection System 2006)
- Figure 1, *Overall Vicinity Map* (Application 2006)
- Figure 3 rev, *Facility Site Map, Part A* (Application 2006) shows slow rate land application fields, major public roads, nearby surface water, residences, and wells.
- Figure 4, *Facility Site Map, Part B* (Application 2006) shows the two RI sites.
- Figure 5, *Well Location Map* (Application 2006) show wells located near the RI sites.



NORTH LAKE RECREATIONAL SEWER & WATER DISTRICT

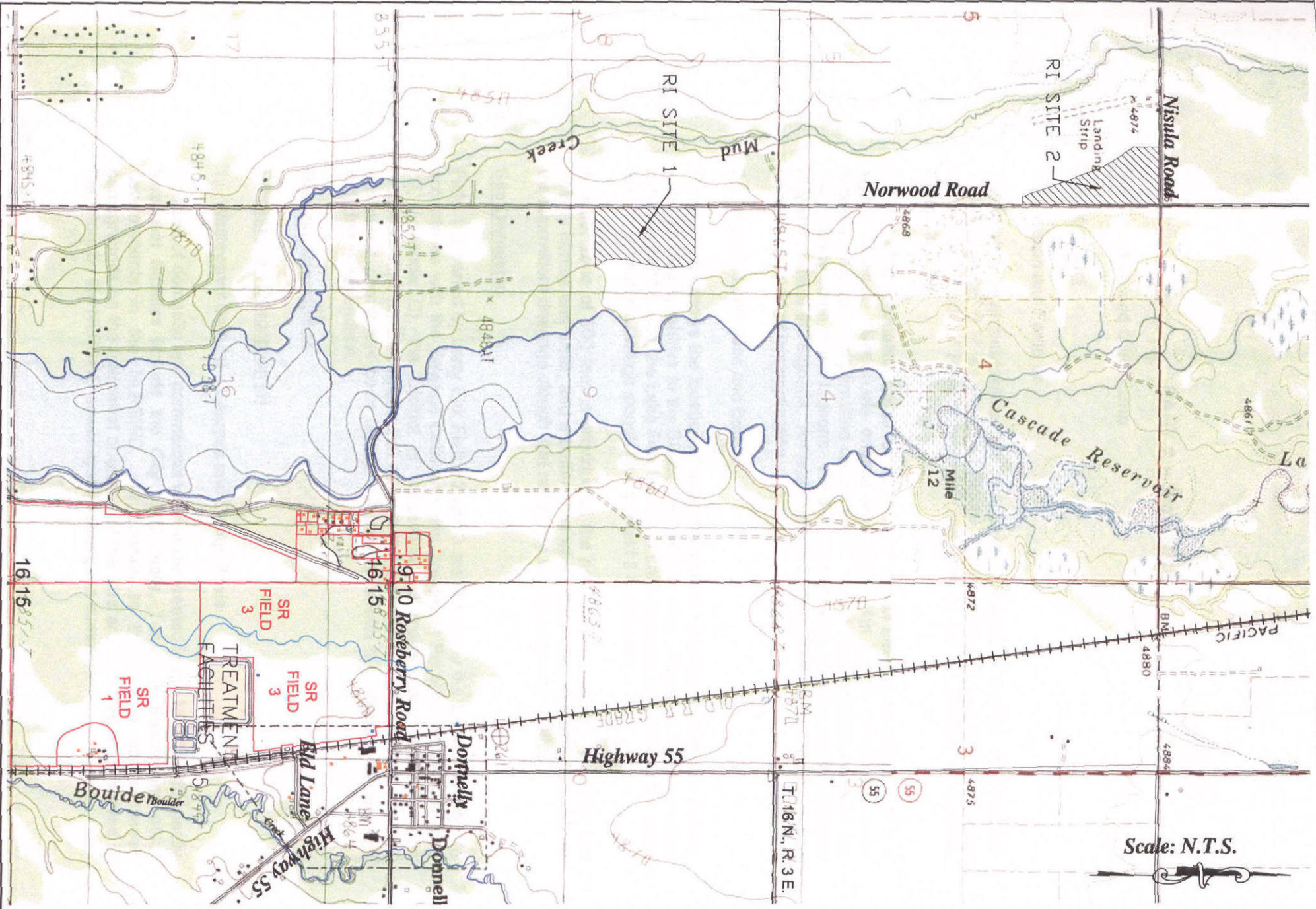
Figure 2-1 Existing NLRSWD Collection System




LEGEND

- Lift Station
- Gravity Sewer
- Pressure Sewer
- ▲ Campground

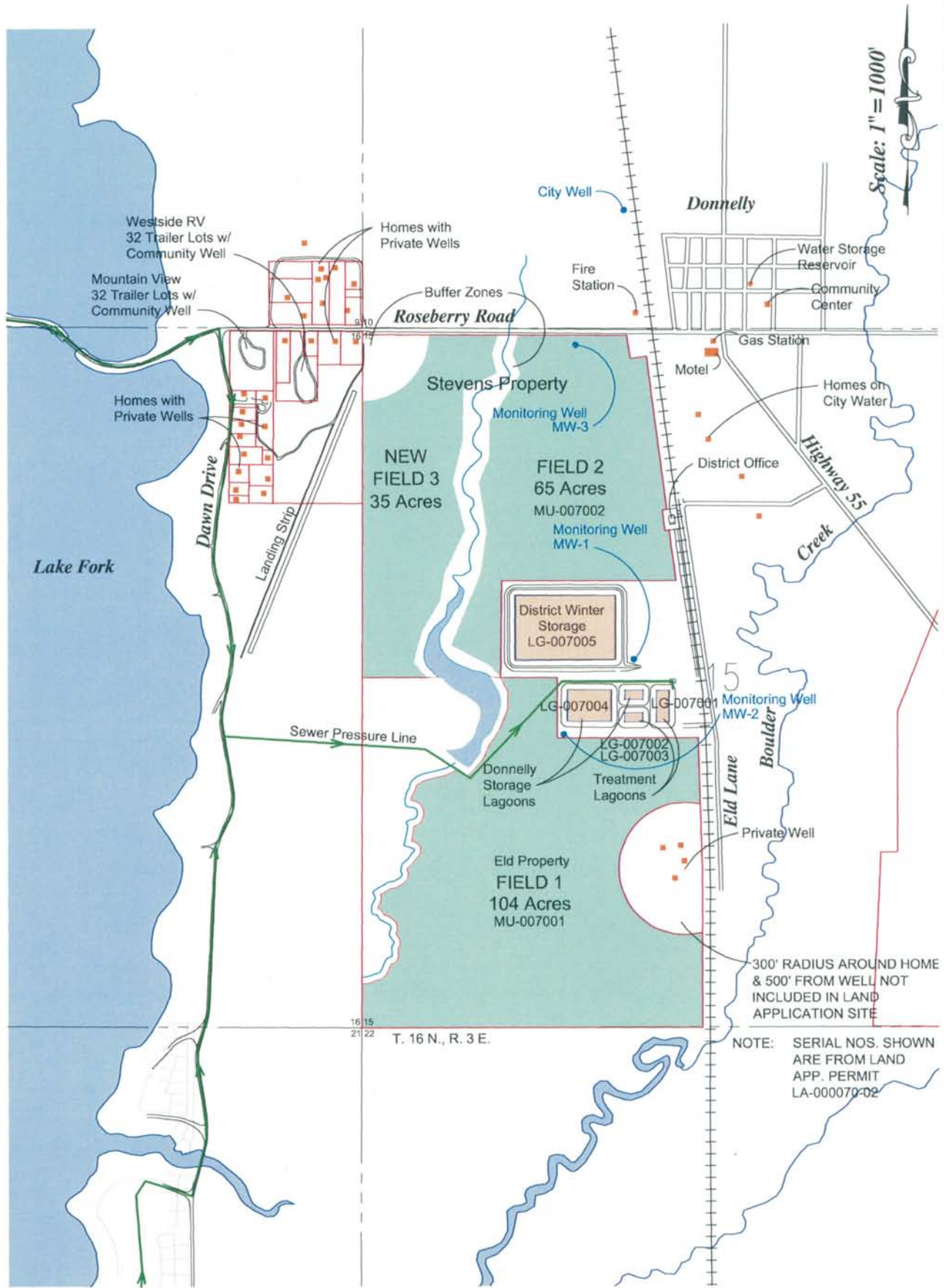
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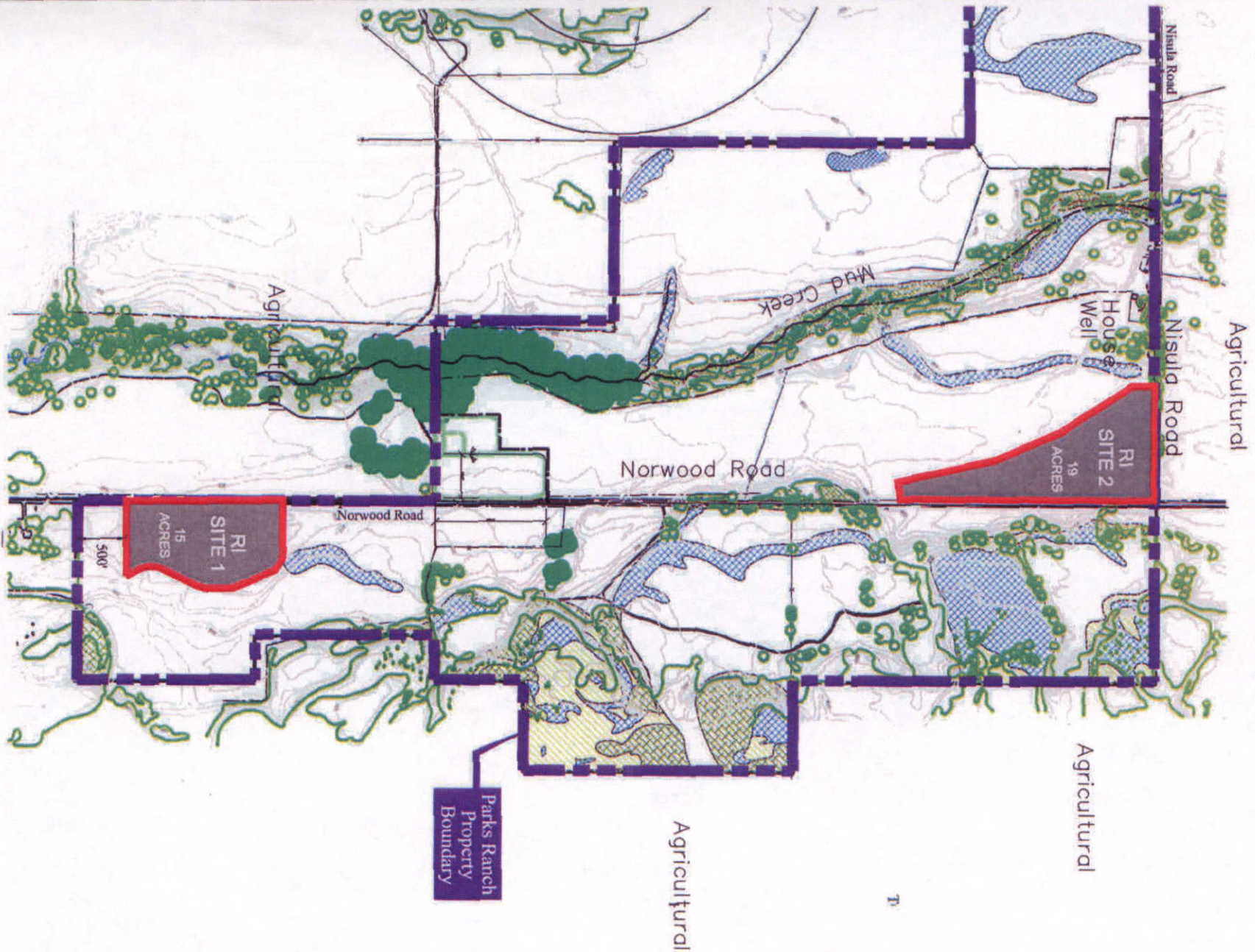
Scale: N.T.S.

FIGURE NO. 1	WLAP Application Overall Vicinity Map	North Lake Recreational Sewer & Water District	 131 SW 5th Avenue, Suite A Meridian, Idaho 83642 (208) 288-1992	PROJECT NO. 105050 FILENAME Overall Vicinity.dwg
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\\Work\105050\Design\North\Land Application\Land App. 11-8.dwg New OK. 2008 - 8.27am



KELLER ASSOCIATES 131 SW 5th Avenue, Suite A Meridian, Idaho 83642 (208) 288-1992	PROJECT NO. 105050
	FILENAME Land App. 11-8.dwg
North Lake Recreational Sewer & Water District	
WLAP Application	FIGURE NO. 3 rev
Facility Site Map (Part A)	



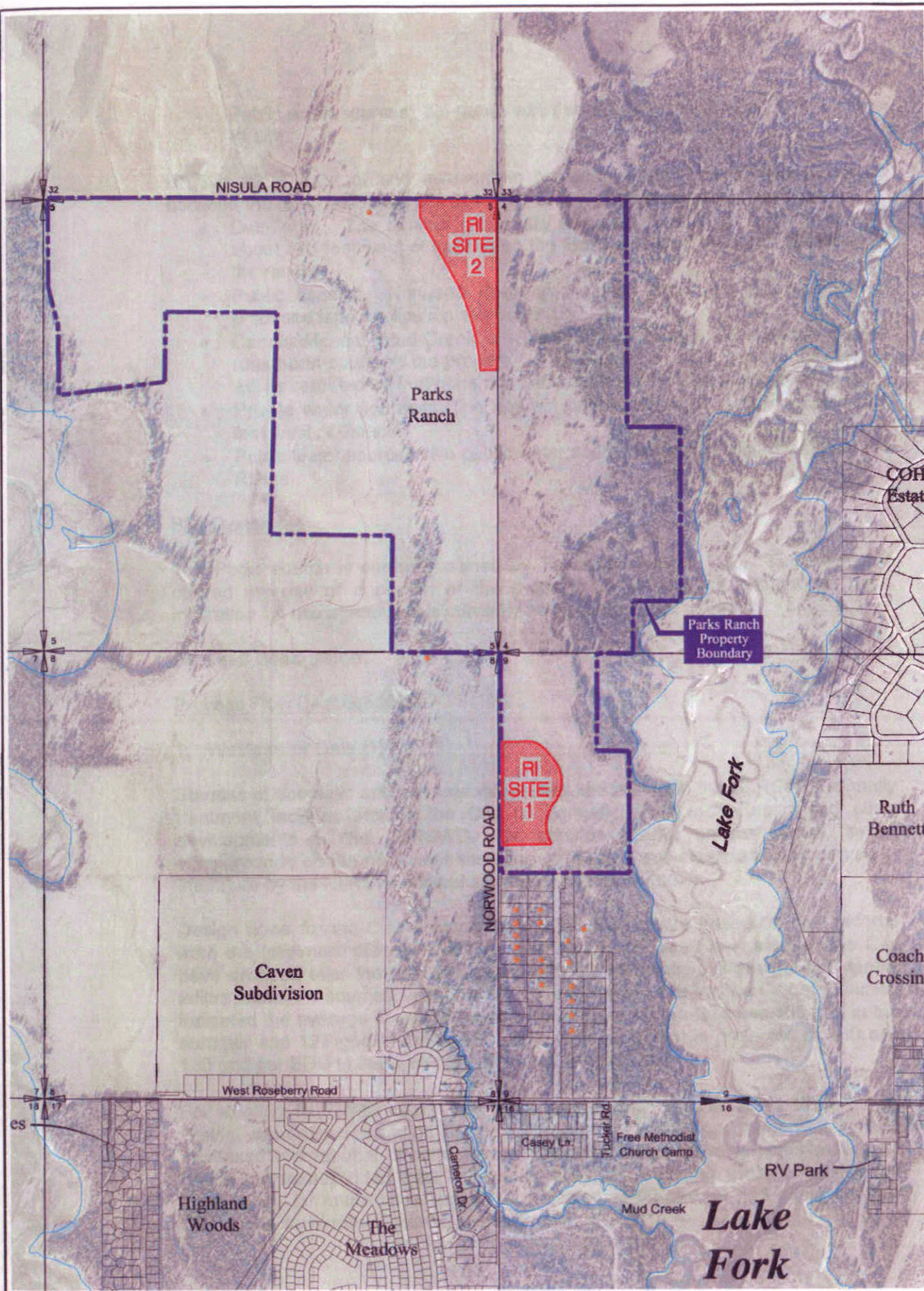
WLAP Application
Facility Site Map - (Part B)

North Lake Recreational
Sewer & Water District



131 SW 5th Avenue, Suite A
Meridian, Idaho 83642
(208) 288-1992

PROJECT NO.	105050
FILENAME	RI Site Map.dwg



• Homes with Private Wells

	PROJECT NO. 105050 131 SW 5th Avenue, Suite 4 Meridian, Idaho 83642 (208) 288-1992 FILENAME 105050WellLoc.dwg
	North Lake Recreational Sewer & Water District
WLAP Application Well Location Map	FIGURE NO. 5



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 N. Orchard • Boise, Idaho 83706 • (208) 373-0550

Dirk Kempthorne, Governor
Toni Hardesty, Director

September 1, 2006

Mr. Bill Eddy, Administrator
North Lake Recreational Sewer & Water District
P. O. Box 729
Donnelly, Idaho 83615

RE: Wastewater Reuse Permit Application, Permit No. LA-000070-03

Dear Mr. Eddy:

The Department of Environmental Quality (DEQ) conducted an inspection at the North Lake Recreational Sewer & Water District (NLRSD) wastewater treatment plant, slow rate land application system, and the proposed site for the new rapid infiltration basins on August 24, 2006.

The following items were noted:

1. DEQ approved plans for construction of ground water monitoring wells for the slow rate site in 2003. The Holladay Engineering Company (HEC) submitted correspondence (attached) on September 19, 2003, stating monitoring wells 1, 3 and 4 were installed and that monitoring well no. 2 was to be installed shortly. During the inspection, only two of these wells were located (MW-1 at the north end of the Stevens field and MW-3 at the NE corner of the Eld field). As noted in the HEC letter, MW-4 near the south boundary of the Eld Field was apparently installed.

Please arrange to have monitoring wells 2 and 4 installed according to the previously approved plans in the locations shown in the September 19, 2003, correspondence or provide confirmation they have been installed. These wells provide the downgradient ground water quality for Stevens and Eld properties respectively. DEQ cannot re-issue this permit until these monitoring wells are in place.

2. DEQ has not received an annual report as required by the current permit LA-000070-02 for the past three years. This is a serious violation of the permit requirements since the annual reports are necessary to evaluate compliance with the permit. Please ensure data is being collected for the 2006 annual report.
3. No flow meter is available to monitor the volume of effluent applied to the Eld or Stevens fields. We asked Keller Associates to investigate the installation of flow measuring device(s) to meet annual reporting requirements.

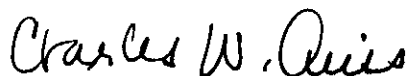
4. The operators indicated that Mr. Eld operates the irrigation system when applying effluent to his field, including the chlorine disinfection system. Operation of the land application system must be done under the control and responsibility of the certified wastewater treatment operator. Please notify Mr. Eld to clarify responsibilities. DEQ will require attendance of Mr. Eld and Mr. Stevens at the permit handoff meeting to discuss the permit requirements.
5. As discussed with Keller Associates during the inspection, the supplemental irrigation water system for the Eld site needs to have a backflow prevention device installed or provide operating procedures to provide an air gap at the supplemental irrigation water connection when the effluent is being used to irrigate the Eld site.
6. The proposed site no. 1 for the rapid infiltration basin (RIB) system was inspected, including the expected ground water discharge areas downgradient of the RIB system. In order to evaluate future RIB performance and ground water impacts, current ground water conditions and quality need to be established.

DEQ will require the installation of ground monitoring wells during this construction season in order to gather sufficient data to establish current conditions. Please have your consultant submit plans for the installation of ground water monitoring wells (a minimum of one upgradient and two downgradient of the RIB system). Ground water monitoring well construction guidance is located at the following link in Chapter 7 starting on page 7-76.

http://www.deq.idaho.gov/water/permits_forms/permitting/guidance.cfm

If you have any questions about these requirements, please call me at (208) 373-0550, or contact me by email at Charles.Ariss@deq.idaho.gov.

Sincerely,



Charles W. Ariss, P.E.
Regional Engineering Manager

Attachment

Cc: Michael McGown, Administrator, Boise Regional Office
Jon Sandoval, Environmental Management and Information Administrator, State Office
Paul Wakagawa, P.E., Boise Regional Office
Jack Gantz, P.E., Boise Regional Office
Susan Burnham, P.E./Nate Cleaver, Keller Associates
Rick Huddleston, P.E., Water Quality Program, State Office
Tressa Nicholas, Boise Regional Office
WLAP File LA-000070-03, State Office
BRO File 17.3, NLRSD, LA-000070, Reading File